Center Independent Research & Development: JPL IRAD

Advanced Micro-Transceiver Technologies for Extreme Mass/Energy/Volume Challenged Missions

Completed Technology Project (2012 - 2013)

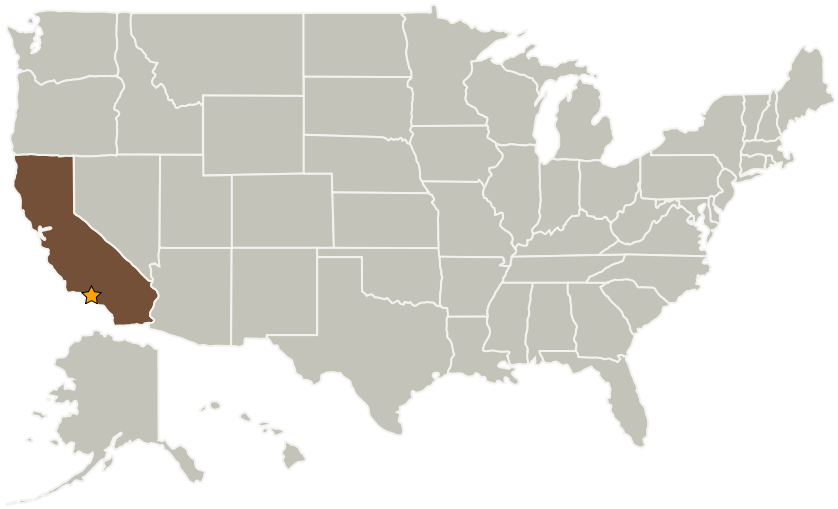
Project Introduction

The primary objective is to mature an existing TRL 5 product that is designed for Earth applications into a fully designed and tested micro-transceiver useable on space-based extreme MEV challenged platforms. A secondary objective is to demonstrate interoperability between this micro-transceiver and next-generation NASA communications assets: specifically the "Communications, Navigation and Networking ReConfigurable Testbed (CoNNeCT)/Space Communications and Navigation (SCaN) Testbed" scheduled to be deployed aboard the International Space Station (ISS). The demonstration will be a ground (Earth) to Space (ISS) link demonstration.

Anticipated Benefits

Projects will benefit from better communcations..

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California

Advanced Micro-Transceiver Technologies for Extreme Mass/Energy/Volume Challenged Missions

Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3

Advanced Micro-Transceiver Technologies for Extreme Mass/Energy/Volume Challenged Missions

Completed Technology Project (2012 - 2013)

Primary U.S. Work Locations

California

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Center Independent Research & Development: JPL IRAD

Project Management

Program Manager:

Fred Y Hadaegh

Project Manager:

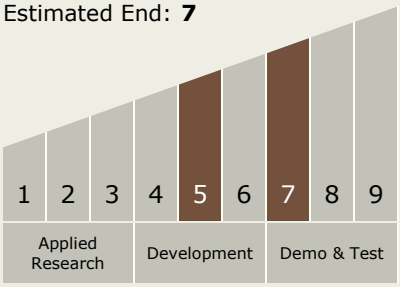
Jonas Zmuidzinas

Principal Investigator:

Eric D Archer

Technology Maturity (TRL)

Start: **5**
Estimated End: **7**



Advanced Micro-Transceiver Technologies for Extreme Mass/Energy/Volume Challenged Missions

Completed Technology Project (2012 - 2013)

Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - TX05.3 Internetworking
    - TX05.3.3 Information Assurance